

IN THE CLAIMS:

Please amend claims 29, 30, 33, 34, and 36-41, and add claims 42-53, as follows:

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29. (Twice Amended) An ink jet printer comprising:
a printer case having a print area where printing upon a sheet is permitted and a nonprint area where printing upon a sheet is not permitted,
a carriage slideably mounted to said printer case and constructed to move [capable of moving] through said print area and said nonprint area;
[a head mounted on said carriage;
an ink cartridge mounted on said carriage for supplying ink to said head;]
a lever pivotably attached to [provided on] said carriage for [mounting or demounting] attaching and detaching an [said] ink cartridge [with respect to] from said carriage, said lever being pivotable between an open position where the ink cartridge is detached from the carriage and a closed position where the ink cartridge is attached to the carriage; and
a lip attached to said printer case and positioned above said lever and within said print region for preventing [positioned within said printer case to: (a) prevent] said lever from [mounting or demounting] detachment of said ink cartridge when said carriage is positioned within said print area, and [(b) permit the mounting or demounting of said ink cartridge when said carriage is positioned within said nonprint area] for abutting said lever to prevent said carriage from moving from said non-print area to said print area when said lever is in the open position.

2 30. (Twice Amended) The ink jet printer as claimed in claim 29, wherein said lip extends substantially along the length of said print area and has a gap formed therein

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corresponding to said nonprint area, said gap permitting the detachment [mounting or demounting] of said ink cartridge.

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33. (Twice Amended) An ink jet printer comprising;

a carriage slideably mounted to said printer case and constructed to move [which moves] along a print area;

[a head mounted on said carriage;]

a substantially U-shaped lever [comprising] including a first arm having a first fixed end, a first free end and a first pivot point, a second arm having a second fixed end, a second free end and a second pivot point, [first and second arms] and a tab [joining] connecting said first fixed end and said second fixed end [a first end of each arm], said lever being pivotably mounted [on] to said carriage at said first pivot point and said second pivot point for pivoting about a pivoting axis defined as a line drawn between said first pivot point and said second pivot point; and [at a second end of at least one of said arms for pivoting about an axis extending between said second ends of said arms;

an ink cartridge detachably mounted [on] to said carriage [at least in part] by said lever;

said lever pivotable about the pivot axis between a first position where the lever engages an ink cartridge and a second position where the ink cartridge is attached to the carriage. [and at least one of said arms including a resilient portion for engagement by said ink cartridge to support said ink cartridge in said ink cartridge on said carriage in a direction of movement of said carriage.]

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(Amended) The ink jet printer as claimed in claim 33, wherein said lever includes at least one resilient member for engaging said carriage when said lever is in the second position [said resilient member comprises a lever mounted on said carriage for mounting or demounting said ink cartridge with respect to said carriage].

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(Twice Amended) An ink jet printer, comprising: [The ink jet printer as claimed in claim 33, wherein]

a carriage which moves along a print area;

a head mounted on said carriage;

a U-shaped lever comprising first and second arms and a tab joining a first end of each arm, said lever being pivotably mounted on said carriage at a second end of at least one of said arms for pivoting about an axis extending between said second ends of said arms;

an ink cartridge mounted on said carriage at least in part by said lever; and

wherein each of said arms includes a resilient portion, said ink cartridge includes convex portions formed thereon, and each of said resilient portions engage [portion engages] a respective one of each of said convex portions to at least in part support said ink cartridge in said carriage moving direction.

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(Twice Amended) An ink jet printer, comprising: [The ink jet printer as claimed in claim 33, wherein]

a carriage which moves along a print area;

a head mounted on said carriage;

a U-shaped lever comprising first and second arms and a tab joining a first end of each arm, said lever being pivotably mounted on said carriage at a second end of at least one of

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said arms for pivoting about an axis extending between said second ends of said arms; and
at least one of said arms including a resilient portion for engagement by said ink
cartridge to support said ink cartridge in said ink cartridge on said carriage in a direction of
movement of said carriage;

an ink cartridge mounted on said carriage at least in part by said lever, said ink
cartridge being [is] provided with a pair of pins projecting outwardly on opposed sides in said
carriage moving direction, and each of said first and second arms includes a cam groove for
receiving said pins for facilitating the mounting and demounting of the ink cartridge in said
carriage.

~~18~~ (Twice Amended) The ink jet printer as claimed in claim ~~37~~¹⁷, wherein each of said
cam grooves has an opening exposed when said lever is in an open position, said cam [groove]
grooves being shaped to guide said pins and therefore said cartridge to its mounted position when
said lever is pivoted from said open position to a closed position .

~~20~~⁴¹. (Amended) An ink jet printer, comprising: [The ink jet printer as claimed in
claim 33, wherein]

a carriage which moves along a print area;

a head mounted on said carriage;

a U-shaped lever comprising first and second arms and a tab joining a first end of
each arm, said lever being pivotably mounted on said carriage at a second end of at least one of
said arms for pivoting about an axis extending between said second ends of said arms;

an ink cartridge mounted on said carriage at least in part by said lever; and

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at least one of said arms including a resilient portion for engagement by said ink cartridge to support said ink cartridge in said ink cartridge on said carriage in a direction of movement of said carriage; said resilient portion assisting [member assists] in reducing vibration of said carriage when said carriage is moving in said carriage moving direction.

Please add claims 42-53 as follows:

6 ~~42~~ The ink jet printer as claimed in claim ~~33~~ 4, further comprising a head mounted on said carriage having a connecting portion and wherein said carriage includes a mating portion for matingly engaging said connecting portion when said lever is in the second position.

7 ~~43~~ The ink jet printer as claimed in claim ~~33~~ 4, further comprising a needle attached to said head, and wherein said cartridge has an ink outlet and includes a seal for sealing said ink outlet, and said needle punctures said seal when said lever is in the second position to create fluid communication between said cartridge and said needle.

8 ~~44~~ The ink jet printer of claim ~~33~~ 4, wherein a discernible signal is produced by said lever when said lever is moved to the second position thereby signaling that the cartridge is in the attached position.

9 ~~45~~ The ink jet printer of claim ~~33~~ 4, wherein the pivoting axis is substantially parallel to the direction of the carriage movement.

~~10 46~~ The ink jet printer as claimed in claim ~~33~~ 4, wherein said first arm includes a first resilient portion and said second arm includes a second resilient portion, said carriage includes a first convex portion and a second convex portion formed thereon, and said first resilient portion engages said first convex portion and said second resilient portion engages said second convex portion to attach said ink cartridge to said carriage.

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47. The ink jet printer as claimed in claim 33, comprising a first pin and a second pin attached to said ink cartridge on opposed sides of said cartridge so as to project outwardly from said sides said first arm having a first cam groove sized and shaped to accommodate said first pin and said second arm having a second groove sized and shaped to accommodate said second pin, said first and second cam grooves for guiding said cartridge to a position where said cartridge is attached to said carriage.

13 48. The ink jet printer as claimed in claim 12, wherein each of said first and second cam grooves has an opening exposed to accept said first and second pins when said lever is in the first position, said cam groove being shaped to guide said first and second pins and therefore said cartridge to the attached position when said lever is pivoted from the first position to the second position.

49. The ink jet printer as claimed in claim 47, wherein said first and second cam grooves are shaped relative to said pivoting axis so that the distance between the inside edge of the grooves and said pivoting axis increases as said lever pivots from the first position to the second position to displace said cartridge toward said carriage to the attached position.

11 50. The ink jet printer as claimed in claim 10, wherein said first resilient portion has a first hole that engages said first convex portion of said ink cartridge and second resilient portion has a second hole that engages said second convex portion of said ink cartridge when said ink cartridge is in the attached position.

51. An ink jet printer, comprising:
a carriage slideably mounted to said printer case and constructed to move along a print area;

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an ink cartridge having a first side including a first pin extending outwardly from said first side, and a second side including a second pin extending outwardly from said second side, said ink cartridge constructed to be retained on said carriage; and

a lever having a first arm, a second arm, and a tab connecting said first arm to said second arm, said first arm having a first groove sized to accept the first pin and said second arm having a second groove sized to accept the second pin when said lever is at a first position.

52. The ink jet printer of claim 51, wherein said first pin and said second pin move within said first and second grooves, respectively, to position said ink cartridge on said carriage as said lever pivots from the first position to the second position.

~~23~~ 53. The ink jet printer of claim ~~51~~ ²¹, wherein the carriage includes a supporting portion and said lever includes a stopper pin positioned to contact said supporting portion when said lever is in the first position to prevent said lever from overpivoting.--

REMARKS

This Amendment is submitted in response to the outstanding Office Action dated October 14, 1998, wherein claims 29, 30, 32-34, and 36-41 were rejected. Applicants note with appreciation that claims 36-41 were objected to, but would be in condition for allowance if rewritten in independent form to include all intervening limitations. Claims 36, 37 and 41 have been amended to place them in independent form to include the limitations of claim 33 in accordance with the Examiner's suggestion. As such, Applicants submit that claims 36-41 are in condition for allowance. Reconsideration of the application in view of the amendments submitted herein and the following remarks is respectfully requested.

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